

Dr. Duke's Phytochemical and Ethnobotanical Database

Chemicals Found in *Sambucus nigra*

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	ACETALDEHYDE	Flower Essent. Oil	--	--		
6	ACETALDEHYDE	Leaf Essent. Oil	--	--		
10	ALPHA-AMYRIN	Flower	--	--		
10	ALPHA-AMYRIN	Leaf	--	--		
10	ALPHA-AMYRIN	Bark	--	379		
5	ALPHA-AMYRIN-PALMITATE	Leaf	--	--		
23	ALPHA-TERPINEOL	Flower Essent. Oil	--	--		
112	ASCORBIC-ACID	Leaf	739	11000	0.5767397343070575	
112	ASCORBIC-ACID	Fruit	128	1515	-0.1902908614886916	
7	ASTRAGALIN	Plant	--	--		
7	ASTRAGALIN	Flower	--	--		
1	BEHENIC-ACID	Plant	--	--		
24	BENZALDEHYDE	Plant	--	--		
24	BENZALDEHYDE	Flower Essent. Oil	--	--		
24	BENZALDEHYDE	Leaf Essent. Oil	--	--		
9	BENZYL-ALCOHOL	Flower Essent. Oil	--	--		
9	BENZYL-ALCOHOL	Leaf Essent. Oil	--	--		
9	BETA-AMYRIN	Flower	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	BETA-AMYRIN-PALMITATE	Leaf	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
3	BETA-AMYRIN-PALMITATE	Plant	--	--		
53	BETA-CAROTENE	Fruit	100	150	0.13914666828563477	
53	BETA-CAROTENE	Leaf	150	150	-0.48469717165390036	
47	BETA-SITOSTEROL	Bark	--	--		
47	BETA-SITOSTEROL	Leaf	--	--		
47	BETA-SITOSTEROL	Flower	--	--		
13	BETULIN	Bark	--	--		
13	BETULIN	Plant	--	--		
22	BETULINIC-ACID	Bark	--	--		
4	BIOTIN	Fruit	0.007	0.009	-1	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
102	CAFFEIC-ACID	Plant	--	--		
28	CALCIUM	Fruit	235	1440	-0.5575831533309608	
4	CALCIUM-OXALATE	Plant	--	--		
2	CAMPESTEROL	Flower	--	--		
2	CAMPESTEROL	Leaf	--	--		
5	CAPRYLIC-ACID	Seed	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
77	CHLOROGENIC-ACID	Flower	--	26000	-1	
1	CHOLESTEROL	Flower	--	--		
1	CHOLESTEROL	Plant	--	--		
1	CHOLESTEROL	Hh	--	--		
20	CHOLINE	Leaf	--	--		
20	CHOLINE	Bark	--	--		
20	CHOLINE	Flower	--	--		
23	CITRIC-ACID	Fruit	500	7340	-0.5315125738760625	
2	CONIINE	Leaf	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
5	CYANIN	Fruit	--	--		
7	CYCLOARTENOL	Flower	--	--		
1	DEXTROSE	Fruit	25000	30000	-1	
4	ETHYL-SALICYLATE	Leaf Essent. Oil	--	--		
61	FERULIC-ACID	Plant	--	--		
15	FIBER	Fruit	63000	392935	2.3709971061121426	
8	FRUCTOSE	Fruit	24100	154150	1.574573707912044	
7	GLUCOSE	Fruit	31000	221410	1.454836787583785	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
30	HYPEROSIDE	Plant	--	--		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.
15	INDOLE	Leaf Essent. Oil	--	--		
6	IRON	Fruit	15	90	-0.17048243955267198	
2	ISOAMYL-ACETATE	Flower Essent. Oil	--	--		
3	ISOAMYL-ALCOHOL	Flower Essent. Oil	--	--		
22	ISOQUERCITRIN	Flower	--	--		
75	KAEMPFEROL	Flower	--	--		
8	LACTIC-ACID	Fruit	--	1800		
7	LAURIC-ACID	Flower	--	--		
7	LAURIC-ACID	Seed	--	--		
1	LEVULOSE	Fruit	21000	29000	-1	
60	LIMONENE	Flower Essent. Oil	--	--		
53	LINALOOL	Flower Essent. Oil	--	--		
27	LINOLEIC-ACID	Flower	--	--		
27	LINOLEIC-ACID	Leaf	--	--		
21	LUPEOL	Flower	--	--		
65	MAGNESIUM	Fruit	265	1635	-0.22909190199546076	
15	MALIC-ACID	Fruit	1200	19000	0.2852247526927457	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
14	MANGANESE	Fruit	2	11	-0.3310049249023243	
63	MENTHOL	Flower Essent. Oil	--	--		
2	METHYL-ISOBUTYL-KETONE	Flower Essent. Oil	--	--		
3	MUCILAGE	Plant	--	--		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.
22	MYRCENE	Flower Essent. Oil	--	--		
6	MYRISTIC-ACID	Flower	--	--		
6	MYRISTIC-ACID	Seed	--	--		
3	N-HENTRIACONTANE	Leaf	--	--		
2	N-HEXACOSANE	Leaf	--	--		Jim Duke's personal files.
1	N-NONACOSANE	Leaf	--	--		
10	NEROL	Flower Essent. Oil	--	--		
39	NIACIN	Fruit	4	7	-0.7178505836876389	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
11	NICOTINIC-ACID	Fruit	--	--		
2	OCIMENE	Flower Essent. Oil	--	--		
64	OLEANOLIC-ACID	Flower	--	--		
64	OLEANOLIC-ACID	Bark	--	503	-1	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
64	OLEANOLIC-ACID	Leaf	--	--		
18	OLEIC-ACID	Leaf	--	--		
18	OLEIC-ACID	Flower	--	--		
9	OXALIC-ACID	Fruit	--	410	-0.283740659370344	
25	P-COUMARIC-ACID	Flower	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
13	PALMITIC-ACID	Leaf	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
13	PALMITIC-ACID	Flower	--	--		
13	PALMITIC-ACID	Seed	--	--		
2	PALMITOLEIC-ACID	Flower	--	--		
2	PALMITOLEIC-ACID	Seed	--	--		
24	PECTIN	Flower	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
24	PECTIN	Leaf	2300	2300	-1.5375729434269683	Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
1	PENTADECANOIC-ACID	Flower	--	--		
2	PHENYL-ACETALDEHYDE	Fruit	--	--		
2	PHENYL-ACETALDEHYDE	Leaf Essent. Oil	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	PHOSPHORUS	Fruit	540	3300	0.0255157665019095	
14	POTASSIUM	Fruit	105	22090	0.369244042498007	
176	QUERCETIN	Leaf	--	--		
15	RIBOFLAVIN	Plant	0.6	0.7	-0.7464596260374953	
87	RUTIN	Flower	19000	25000	-0.37410870193006646	
87	RUTIN	Leaf	210	9200	-0.43338842821411155	
2	SAMBUNIGRIN	Leaf	420	420		
14	SHIKIMIC-ACID	Plant	--	--		
1	SODIUM	Fruit	75	535	-0.1332173373035911	
8	STEARIC-ACID	Leaf	--	--		
8	STEARIC-ACID	Plant	--	--		
8	STEARIC-ACID	Flower	--	--		
12	STIGMASTEROL	Leaf	--	--		
12	STIGMASTEROL	Flower	--	--		
14	SUCROSE	Fruit	700	9530	-0.6792454901028104	
35	TANNIN	Leaf	4400	30000	-0.9831117667907324	
23	TERPINEN-4-OL	Flower Essent. Oil	--	--		
31	THIAMIN	Plant	1	1	-0.5609871067944916	
2	TRIDEcanoic-ACID	Flower	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
8	TYROSINE	Fruit Juice	--	--		
8	TYROSINE	Fruit	2200	2900	0.19942785780417618	
3	UNDECYLENIC-ACID	Seed	--	--		
89	URSOLIC-ACID	Flower	--	--		
89	URSOLIC-ACID	Leaf	--	--		
89	URSOLIC-ACID	Bark	--	--		
1	VALERIANIC-ACID	Fruit	--	--		
1	ZIERIN	Leaf	--	--		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.
77	ZINC	Fruit	3	17	-0.40018873103446667	